MARINE RECREATIONAL INFORMATION PROGRAM

Data Management & Standards Workgroup

PROJECT PLAN

Develop Marine Recreational Fisheries Minimum Data Elements and Regional/National Standards

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Project Plan

Definitions

The following terms used in this document are defined below:

- **Project Scope** - Provides a documented description of the project as to its output, approach, and content.
- **Work Breakdown Structure (WBS)** - Describes a deliverable-oriented grouping of project elements that organize and define the total scope of the project.
- **Project Schedule** - Provides the list of the project activities, often using a Gantt chart. The schedule should include milestones, task dependencies, task duration, work product delivery dates.
- **Milestone** – event that marks the completion of a work package or phase, typically marked by a high level event such as the completion of a deliverable or a formal review / approval session.
- **Project Budget** - Describes project costs and financial considerations including overall estimates and additional resource requirements.

Document Development

Subject: Change history for the DMSWG Project: Develop Marine Recreational Fisheries Minimum Data Elements and Regional/National Standards

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1 Overview

1.1 Purpose

The Marine Recreational Information Program (MRIP) Data Management and Standards Workgroup (DMSWG) was formed, in part, to identify the issues and tasks associated with developing common data elements and standards across fisheries-dependent recreational data collection programs, and design a data management system to support the current and future recreational fishing information programs.

The project Develop Marine Recreational Fisheries Minimum Data Elements and Regional/National Standards (DMSWG-2) has been identified as a critical step in developing a framework that allows participating regions to drive the development of a comprehensive, effective, and high quality fisheries data collection program. This effort requires a collaborative approach to reach data quality goals at the state, regional and federal levels. How well NOAA Fisheries is able to uniformly enhance its fishery statistics data is highly dependent on inter-region and inter-state cooperation, thoughtful use of available resources, and continued partnerships with state agencies and data collection organizations such as the Atlantic Coastal Cooperative Statistics Program (ACCSP) and the Gulf, Pacific and Western Pacific Fisheries Information Networks (FIN's).

This project will take the results of DMSW-1, which will contain a comprehensive grouping of data sets and elements from existing systems. These results will be analyzed and compared for the development of minimum data elements for national standards. Data elements gaps may be identified during this process and the requirements analysis process. The Data Management and Standards Workgroup will collaborate with the Analysis and Design Workgroups to provide recommendations for minimum national marine recreational data standards. Adoption of the minimum data elements and standards will continue to enhance the regional and national recreational fishing statistics, since many suggested enhancements or further requirements by each Region may be found to have broader applicability.

The need for high quality fishery statistics has resulted in the implementation of additional data collection programs, both by the Federal government and state fishery agencies. Some of these programs collect the same or similar data, but the programs may not be fully integrated or coordinated to assure that the data are collected and defined in compatible ways. Consequently methods are needed to provide data managers with the means to efficiently compare and, to the extent possible, reconcile differences between data collection programs. Finally, the end users (assessment scientists, fishery managers, industry and the public) need a place to view and obtain recreational fishing data across the various collection programs.

The project will improve the quality of data that are collected at local levels and serve to satisfy the national need for high quality fishery statistics by recommending a minimum set of similar data elements that all participating programs should collect. Meeting those data collection and transfer standards will aid in the ultimate analysis of the data. Analysis of separate local data collection systems will identify common practices and procedures that can be implemented as core elements in any fisheries data collection system. This will prevent redundant system developments in future data collection systems. The future reconciliation of data sets will also facilitate the detection of data gaps, or data that is present in one data set, but missing in

another comparable set. The development of tools specifically for the purpose of data reconciliation will enhance and standardize the methods used to match data, and will speed the process of reconciliation beyond the adaptation of ad hoc queries and methods.

The identification of common core elements will also assist in the development of best practices and standard procedures that can be documented at a national level and used as guidelines for local data managers. The implementation of the national standards at various local regions will increase efficiency of the system by allowing incorporation of local requirements.

1.2 **Scope**

The DMSWG-2 project will provide the critical information to bridge the development of a new MRIP design (from Design Workgroup) with inclusive and standardized data elements and codes flexible enough to house historical data as well as the newly designed survey data. The two primary deliverables from this project will be 1) minimum data elements with standardized data codes and 2) documentation of detailed requirements analysis including business rules and data processing protocols. DMSWG-2 addresses the challenges found when comparing same or similar fisheries data that are collected by various State, Regional and Federal monitoring programs. Monitoring programs include federal programs such as the Marine Recreational Fisheries Statistics Survey (MRFSS) for the Atlantic, Gulf, and Hawaii; the Large Pelagics Survey (LPS) for Maine through Virginia, Southeast Headboat, etc.; state programs for Alaska, California, Oregon, Washington and Texas, and other fisheries data collection programs, such as surveys in the Western Pacific islands (American Samoa, Mariana Islands and Guam). There are a number of potential duplicate and complementary reporting systems that are expected to participate in the analysis phase of the project DMSWG-1.

The development of this project (DMSWG-2) will determine the requirements and scope of an integrated recreational fisheries database. The initial activity of the project DMSWG-2 is to review existing data management systems (documentation compiled from DMSWG-1) for recreational data collection programs to create a set of minimum data elements with standard codes. All the program partners must agree on minimum data elements and coding standards that will be included in a compiled recreational database. This step is similar to the development of ACCSP, FIN, and the Fisheries Information System (FIS) for compilation of disparate commercial fisheries databases. The second major activity will be the development of database requirements documentation. The requirements document provides information on what functions the system must be able to perform, and what standards must be met, *but does not build a running database*. The benefit of this project is the recognition that regional activities and specific data collection fields may vary, but once a set of minimum data elements with standard codes are agreed on the data can be combined and comparable, as appropriate.

Future DMSWG projects will be required to design and build the information management system, transform historical data into that system (data reconciliation), and implement new data consolidation processes. The DMSWG has identified additional groups of projects necessary for Database design / development and implementation. These projects include; standardize information management, data collection, and sampling protocols; metadata design and data input; develop a flexible end user interface for access to the data.

1.3 Assumptions and Constraints

Assumptions

- Project Team member's agencies will provide staff time to participate, and additional funding will be available to support agencies where resources are deficiency
- Compilation of recreational programs data collection formats, codes, and procedures completed under DMSWG-1
- The regions/programs will provide the necessary resources to the team, participating in the Gap analysis, reviews, system testing, and system integration
- Reliance on existing regional/national programs that may have already compiled some of this information
- Expected contractor support to complete project activities
- Tasks developed assume the following considerations:
    - Integration of local and regional recreational datasets into a national system (MRFSS, LPS, Texas recreational data program, SE Headboat, etc.)
    - Integrate historical data and new data with metadata on timeseries
    - Integrate with communications group where data available – and make sure data in each location are consistent
    - Compile metadata of what data elements are in each set, how formatted, who collected it, and how it can be used
    - Data Output - Easily separate data sources / different data programs – don't inappropriately combine data
    - Avoid / remove duplicate data for same area / year
    - Datasets easily combined and distributed at a national level
    - Confidentiality / data sharing limitations removed
    - Standardization among programs (what standards and criteria)
    - Registry – timely updates and use
    - Identify data gaps and implement changes expand data collection or reconciliation to fill those gaps where possible
    - DMSWG will receive / interact with Design Workgroup on minimum data elements

Constraints

- Human Resources
    - Lack of staff with the needed technical skills to implement the software applications (at regional and workgroup levels)
    - Lack of staff time on workgroup to perform tasks
    - Time commitment of subject matter experts and data managers (workgroup members)

- Technology
    - Changing technology that impacts project development
    - Adequate systems' security to preserve the data's confidentiality

- Leadership – how define?
    - National level, regional level, Executive Committee and Operations Team

    - Political will and funding to implement suggested structures

- Funding
    - Funding stream is unknown

1.4 Project Closure

The criterion for completion will occur when the MRIP Executive Committee accepts and implements this project.

Project Activities

- Analyze product (report) of compiled recreational surveys from DMSWG-1 to set standards
- Validate minimum data elements with Design and Analysis Workgroups (make sure elements align with other workgroups)
- Evaluate/determine need for centralized or distributed system and methods to transform legacy data into new system
- Consult and collaborate with regions to identify additional resource requirements for improving existing data collection to meet national data needs
- Submit recommendations from project team for set of minimum data elements with standard codes
- Submit system requirements documentation including:
    a. Centralized vs distributed system
    b. Plan to incorporate legacy data at various levels of detail
    c. Functional requirements of system and end user interface

Transition Activities

- Provide documentation of minimum data elements with standard codes to Operations Team for approval and archiving, and Contractor for development
- Provide requirements document to Operation Team and contractor, NMFS, or others as necessary for database development

Document Project Results

- Documented minimum data elements and standard codes
- System requirements document
- Status reports

Lessons Learned

- Use of existing regional database formats / standards is encouraged
- Careful research is required to collect information on existing data collection systems.
- Identification of common, general collection and reconciliation practices and common data gaps makes systems development more efficient

2 Approach

2.1 Resource Management

Table 1: Project Members

Project Role	Name	Responsibilities
Project Sponsor	MRIP / Preston Pate	Provide funding sources, ensure resource availability and accessibility across workgroups, and help to address policy and regulatory issues as identified
Project Manager(s)	TBD	Provide technical and leadership support (25 – 50% of use for 10 mo) - Contractor direction, development of project plans and issues documents for clarification of issues as they arise.
Project Leader(s)	Geoff White Patty Zielinski / Lauren Dolinger Few	Provide coordinating support for workgroup activities (10% of use per month of project)
Project Team Member	Gregg Bray	Provide technical support (10% of use per month of project)
Project Team Member	Tina Chang	Provide technical support (10% of use per month of project)
Project Team Member	Chad Hanson	Provide technical support (10% of use per month of project)
Project Team Member	Mike Quach	Provide technical support (10% of use per month of project)
Project Team Member	Carlos Rivero	Provide technical support (10% of use per month of project)
Full Project team		Review Draft / Final Products
Project Management Support	NMFS Science & Technology – possibly Scott Sauri.	Provide project management support
Workgroup Chair	Kathy Knowlton	Provide Link to DMSWG (15% of use per month of project)

2.2 Communication Management

The following strategies have been established to promote effective communication within this project.

- The appointed Project Manager will present project status to the Operations Team and workgroup chair on a monthly basis or at the Operation Team's request.

- The appointed Project Manager will provide written meeting/conference call minutes for all meetings relevant to the project and distribute to all workgroup members.
- The MRIP Operations Team will be notified via e-mail of all urgent issues. Issue notification will include a description of the issue, time constraints, possible impacts, and proposed resolutions if possible.
- The Project Team will have monthly meetings (conference calls) to review completed tasks and determine current work priorities.
- All electronic Project Documents will be maintained by the appointed Project Manager.

2.3 Related Projects

- DMSWG-1: Identify and consolidate information on existing recreational datasets.
- Other MRIP workgroup requirements
- National Registry Database Implementation
- FIS (including InPort application)
- Collaborate with National Fish Habitat Initiative

2.4 Quality Management Plan

- Quality Assurance- the team will review developments of the project to ensure they meet the minimum quality standards of each local data set.
- Change Management – the contractor will manage changes to the requirements and items requested but not included in the database requirements documentation.
- Quality Control – team members at each implementation site will evaluate the system to ensure quality control issues are addressed, prior to the system deployment.

2.5 Technical Approach

- Current project
    - Collaborate with various regional recreational data collection entities to establish minimum common data elements and standard codes.
    - Conduct full requirements analysis for database management system, including centralized vs distributed model, data processing standards, system business rules, data reconciliation model to transform data from disparate sources (historical and future), metadata, and the functional requirements of the end-user interface.
- Future projects
    - Build the database system(s) to meet the specifications of the requirements document

- Load historical data into system – one data source at a time – testing data processing procedures, and end user interface, with modifications as necessary.
- Load new data, and implement metadata module and document repository for individual data collection program information.

3 Project Estimates

3.1 Work Breakdown Structure

Table 2: Work Breakdown Structure, by Phase

Project Phase	Major Tasks and Activities
Phase 1: Initiation	Review of proposed project concepts and alternatives to achieve a realistic goal, in terms of funding, time and end result o Confirm the team members' participation o Confirm project scope, goals, and schedule
Phase 2: Planning and Analysis	Determining the requirements of the project o Identify current data sets, formats, and data processing procedures being used (DMSWG-1)
Phase 3: Execution and Oversight	Executing the elements of the project plan o Develop minimum data elements list alongside full list of data elements that can be submitted o Develop data coding standards for every field o Document data structure, sources, integration, module interfaces, and external systems interfaces; coordinate with Design Workgroup o Document functions of system components and interfaces – using regional programs as basis where possible o Document functions of users interface diagrams and outline; coordinate with other workgroups as necessary o Given list of data elements, standards, and procedures above, evaluate central vs distributed system needs o Determine timeframe and project scope for data incorporation / reconciliation (new, legacy, both?) o Determine consolidation procedures where multiple programs collect similar / same data

Phase 4: Validation and Implementation	Ensuring the product(s) meet the specified needs by reviews, testing, quality checks, etc., then implementing the product/service o Have all participating programs / agencies review and approve list of data elements and codes o Review of database design document o Completion of status reports
Phase 5: Close	Completing all final activities and deliverables including preparing Lessons Learned, conducting project team review, submitting ending project status report and budget information. o Documented minimum data elements with standard codes o System Requirements Documentation o Completion of final status report and budget

Future Projects – **Database Construction and Implementation Tasks**	o Develop database system logical and physical model from requirements documents o Document and code system components and interfaces based on requirements documents o Develop end user interface and web query tools based on requirements documents o Prepare testing data and test system components o Evaluate plan for implementation by region – are resources available? o Deploy system for regional use o Data reconciliation – expect expensive and difficult! o Perform test application functionality o Integrate additional data sources from regions o Provide system support / enhancements o Provide user training, maintenance training and document both

3.2 Schedule and Milestones

Table 3: Project Schedule – Major Tasks and Milestones

ID	Activity Description	Planned Start	Planned Finish	Predecessor
1	**Task 1: Set minimum data elements and standards**	04/15/08 depends on completion of project DMSWG-1	06/15/08	DMSWG – 1 project completion
2	Activity 1.1: Develop minimum data elements list alongside full list of data elements that can be submitted			
3	Activity 1.2: Develop data coding standards for required and optional data fields			
4	**Task 2: Develop full requirements document**	06/15/08	10/15/08	1
5	Activity 2.1: Identify and describe additional capabilities of the system to be developed (data processing, QA/QC, reporting, inclusion of multiple data sets, etc.), including local requirements for each regional location			1
6	Activity 2.2: Set distributed vs. centralized architecture			1
7	Activity 2.3: Set scope of legacy data reconciliation - Incorporate additional data sets, relationships between data sets and matching rules into existing systems			5
8	Deliverable: Prepare and submit periodic status reports			
9	Deliverable: System Requirements Documentation		10/15/08	5-8

3.3 Cost Estimates

Table 5: Cost Estimates

Project Need	Description	Estimated Cost, per item	Date Needed	Total
Hardware				
Software				
License Fees				
Service Contract or Maintenance Fees				
Testing Equipment or Facilities				
*** Additional Project Staff**	Participant time required that impacts regular work schedule	10% salary-Workgroup In-Kind	Ongoing recognition	
Contract Support	NMFS approved contractors	$150,000**	4/15/08	$150,000
Training				
Project-specific Travel	2 in-person meetings (1 initiation / review of DMSWG-1 output: 20 workgroup members, facilitator, subject experts) (1 review of standards and drafting of requirements document)	$ 25,000	TBD	$ 25,000
Administrative Support Fees	2-3 Progress conf calls / WebEx (internet conferencing service) with workgroup and contractor	NOAA In-Kind		
Other				
			Grand TOTAL	$175,000.00

*** Cost estimate based on a contractor proposal to develop a requirements document for a much smaller ASMFC project in 2001 for approximately $50,000. Considering this project is much broader in scope, the workgroup estimated contractor support at $150,000.*

*** Additional Project Staff**

Name	Role	Labor Estimate (in hours)	Organization
Workgroup Members	Participate in workgroup activities	10% time – recognition of in-kind contributions.	Various

4 Project Tracking

4.1 Status Reporting

Project status reports for the Project will be provided on a monthly basis to the Operations Team. Status Reports may be completed more frequently, but will be completed at least once a month for all projects.

4.2 Expenditures

The funds spent on the project will be tracked across all levels of expenditures. For all categories, the costs and expenses will be recorded. The total will be provided on the Status Report for each month.